



2014 Commercial & Industrial Energy Conservation & Common Area Multifamily Funding Calculation Workbook

User Guide

~ updated when the workbooks were updated in May of 2014 ~

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A. Getting Started on a Project

Contact Seattle City Light early in the project so that the required paperwork and site-visit can be completed before installation begins. You may either call 206-684-3800 or email SCLEnergyAdvisor@seattle.gov. Please include the facility address.

B. Overview of Worksheets

Custom and Standard Funding Calculations. *Seattle City Light Funding Calculation Worksheets* provide estimates of electrical energy savings and funding for common energy conservation measures for new and existing buildings. Conservation strategies that are not covered by these standard Funding Calculation Worksheets are referred to as Custom Measures. Custom Measures can be funded based on customized engineering calculations.

Where to Get Copies of the Workbooks. The *Funding Calculation Worksheets* for standard Lighting and HVAC measures can be downloaded from www.energysmartservices.com

Summary of Funding Calculation Workbook file names

<i>Application</i>	<i>File Name</i>
Lighting in New Construction	SCL Worksheets for HVAC & NC LIGHTING
HVAC in New & Existing Bldgs	SCL Worksheets for HVAC & NC LIGHTING
Lighting in Existing Buildings	SCL Worksheets for RETROFIT LIGHTING
Custom Incentives	SCL 2013 Worksheets for CUSTOM INCENTIVES

C. Use of the Worksheets

Select an up-to-date version of the worksheets. It is not recommended that you reuse a file that's already been used for another project. Data for the previous project if not completely removed can lead to incorrect results on the new project.

Navigation. Navigate using the tabs at the bottom of the screen, moving from left to right, or use the navigation buttons provided.

Green Cells. The user completes worksheets by entering information in the green cells. White cells are either left blank or will be auto-populated by the worksheet. If the calculation results aren't populating, check that you have filled all the relevant green cells.

Deleting Data, or Clearing Cells. When deleting the contents of a cell, use the "delete" key, enter a zero, or select *Edit/Clear/Values*. Do not use the spacebar to empty a cell...the resulting cell looks empty, but it is not.

Cutting and Pasting. You can cut and paste data into these worksheets. If you use *Edit, PasteSpecial, Values*, rather than simply *Edit/Paste*, you will retain the user-friendly formatting.

Large Projects. Some of the worksheets have more lines than are printed using the default print range. For large projects, extend the print range down the page as necessary to include all lines that include data. (Highlight the total area to be printed, then select *Page Layout/Print Area*.)

Cost-based Funding Caps. Take a look at the *Project Summary* when you're done. Funding estimates in the *Project Summary* include the effects of any cost-based funding caps. Seattle City Light doesn't pay more than 70% of the cost for retrofit projects (no more than 100% of the incremental cost for new construction), and doesn't buy down the payback for the customer to any less than 6 months. Cost-based funding caps are based on the total project funding, with the effects applied proportionately to all the individual measures.

Use of Excel. These workbooks have been edited in Excel 2010. Please enable macros, or "enable content" when prompted, save to a macro-abled file type, and designate the file as a "trusted document." The retrofit lighting workbook requires use of macros. In the other workbooks, macros are handy but not necessary.

D. Lighting in Existing Buildings

Start by completing the *Start and Setup Page*. Project information entered in the Start and Setup Page autopopulates the other worksheets to save you time. The Start and Setup Page also gathers information about the project scope, the funding program being used, and any advanced calculation preferences you have, so that the workbook can be automatically configured for your needs. Once you have completed your entries, hit the “Done” button at the bottom of the page to execute setup. Although changes to the setup can be made later, the amount of time required will be reduced by completing the Start and Setup Page first. If you have questions or difficulties at any point in the process, please call the energy management analyst assigned to your project or the SCL Energy Advisors at 206-684-3800.

The default workbook setup minimizes complexity. The advanced user may want to change those defaults on the Start and Setup Page under Advanced Setup.

Use a **Fixture Schedule**. For a large project, use of a fixture schedule reduces the number of times each fixture type needs to be described.

Use **Total per-unit costs**. Seattle City Light needs to gather line-by-line per-unit costs. These can either be gathered as per-unit material costs, or per-unit total costs. The remainder of the cost information is entered for the entire project at the top of the Fixture Count worksheet.

New: Use the **Time Schedule Calculator**. You may calculate the baseline hours per year of operation on the Time Schedule Calculator that takes into account the baseline time schedules and baseline lighting controls. When you choose to use the Time Schedule Calculator, a column on the left hand side of the other worksheets allows you to assign the schedules you’ve created. The calculator is intended to offer clarity and efficient use of user time when combining the time of day schedules and controls to produce the baseline equivalent hours of operation per year.

Check the Cost Summary when you are done with other inputs. The costs for the project are summarized at the top of the Fixture Count worksheet.

***The Works!* – a whole-building lighting program.** Under *The Works!* a customer may receive 15% more funding for replacing all the inefficient lighting in their facility, or 30% more funding if they also add occupancy sensors and beat the 2012 Seattle Energy Code interior lighting power allowance by 10%. To apply for the higher funding levels, read the Checklist, then fill out the Qualification Worksheet. The appropriate funding levels are automatically applied based on entries to the Qualification Worksheet.

Proposed Fixture Types. In the Fixture Count or the Fixture Schedule, the Proposed Fixture Type is selected from a pull-down menu, and should be chosen carefully because this input affects the funding levels. “Lamp-Only” upgrades can be reversed by replacing the lamp. These include screw-ins and linear tube replacements. “Hard-Wired” upgrades cannot be reversed by changing the lamp. They include retrofit kits and new fixtures. See the attached *2014 Funding Factor Table* for the variation in funding by Proposed Fixture Type.

2014 FUNDING FACTOR TABLE

(in \$/kWh, using first-year kWh savings)

LEDs receive a 10% bonus beyond the amounts shown below.
The information entered into *The Works!* Qualification Worksheet determines whether an additional 15 or 30% gets added to the standard funding.

Energy Conservation Measure	Standard \$/kWh	<i>15% more</i>	<i>30% more</i>
		<i>Works!^{Basic}</i> \$/kWh	<i>Works!^{PLUS}</i> \$/kWh
Fixture-mounted Occ Sensor Retrofits	\$0.23	\$0.26	\$0.30
T8/T5 Delamp-Only Retrofits	\$0.02	\$0.02	\$0.03
T8/T5 Relamp-Only Retrofits	\$0.07	\$0.08	\$0.09
CFL Lamp-Only Retrofits	\$0.03	\$0.03	\$0.04
CFL Lighting, Hard-Wired	\$0.23	\$0.26	\$0.30
Exit Signs	\$0.17	\$0.20	\$0.22
Fixture Removals	\$0.11	\$0.13	\$0.14
Fluorescent Lighting, Hard Wired	\$0.23	\$0.26	\$0.30
CMH Lamp-Only Retrofits	\$0.07	\$0.08	\$0.09
HID &/or Induction, Hard Wired	\$0.23	\$0.26	\$0.30
Induct. or Cold Cath. Lamp-Only	\$0.11	\$0.13	\$0.14
LED A-Lamp Lamp-Only Retrofits	\$0.17	\$0.20	\$0.22
Candelabra LED Lamp-Only	\$0.17	\$0.20	\$0.22
Linear LED Lamp-Only Retrofits	\$0.17	\$0.20	\$0.22
MR16 LED Lamp-Only Retrofits	\$0.17	\$0.20	\$0.22
PAR/R 30-40 LED Lamp-Only Retrofits	\$0.17	\$0.20	\$0.22
PAR/R 20 LED Lamp-Only Retrofits	\$0.17	\$0.20	\$0.22
Lamp-Only LED Retrofits, Other	\$0.17	\$0.20	\$0.22
Exterior Canopy LEDs, Hard-Wired	\$0.23	\$0.26	\$0.30
Ceiling LEDs, Hard-Wired	\$0.23	\$0.26	\$0.30
High Bay LEDs, Hard-Wired	\$0.23	\$0.26	\$0.30
Pole Light LEDs, Hard-Wired	\$0.23	\$0.26	\$0.30
Wall Pack LEDs, Hard-Wired	\$0.23	\$0.26	\$0.30
Hard-Wired LEDs, Other	\$0.23	\$0.26	\$0.30
Central Lighting Controls	\$0.23	\$0.26	\$0.30
Occupancy Sensors (Wall / Ceiling Mount)	\$30/\$90	\$34/\$104	\$39/\$117